

# UK Patent Application GB 2 351 254 A

(43) Date of A Publication 27.12.2000

(21) Application No 0004539.3

(22) Date of Filing 28.02.2000

(71) Applicant(s)

Chin-Sung Wu  
30, Mun Yu Street, Lu Kang, Chang Hwa, Taiwan

(72) Inventor(s)

Chin-Sung Wu

(74) Agent and/or Address for Service

Alpha & Omega  
Chine Croft, East Hill, OTTERY ST. MARY, Devon,  
EX11 1PJ, United Kingdom

(51) INT CL<sup>7</sup>  
B26B 13/20

(52) UK CL (Edition R )  
B4B B80M2 B80X

(56) Documents Cited  
US 5659959 A  
WPI Accession no. 92-198022 and SU001676508

(58) Field of Search

UK CL (Edition R ) B4B  
INT CL<sup>7</sup> A01G 3/02 3/025 , B26B 13/00 13/12 13/20  
EPODOC, JAPIO, WPI

(54) Abstract Title  
Shears

(57) A pair of shears 20 has a pair of blades 40, a main handle 22, an auxiliary handle 39, a lug 28, and a shaft 21. The lug 28 is connected to the auxiliary handle 39. The shaft 21 is disposed on a bottom of the lug 28. The shaft 21 has an insertion groove 24. The lug 28 has a circular aperture 33 (Fig.7). The main handle 22 has a protection bow 35, a hollow interior 36, an upper recess 31 (Fig.7) receiving a spring 32, a round hole 221 formed on an upper portion of the main handle 22 and receiving the shaft 21, and a circular hole 222 communicating with the round hole 221. A bolt 23 is inserted in the insertion groove 24 via the circular hole 222. A rod 34 (Fig.7) has a lower end inserted in the upper recess 31 and an upper end inserted in the circular aperture 33.

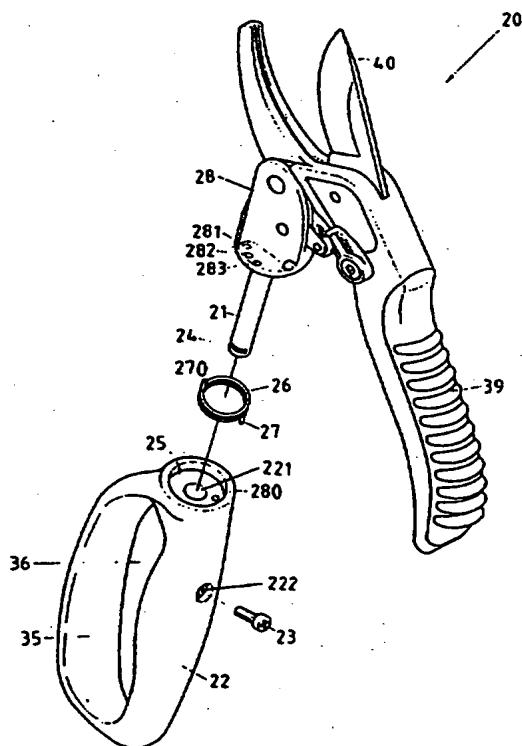


FIG.2

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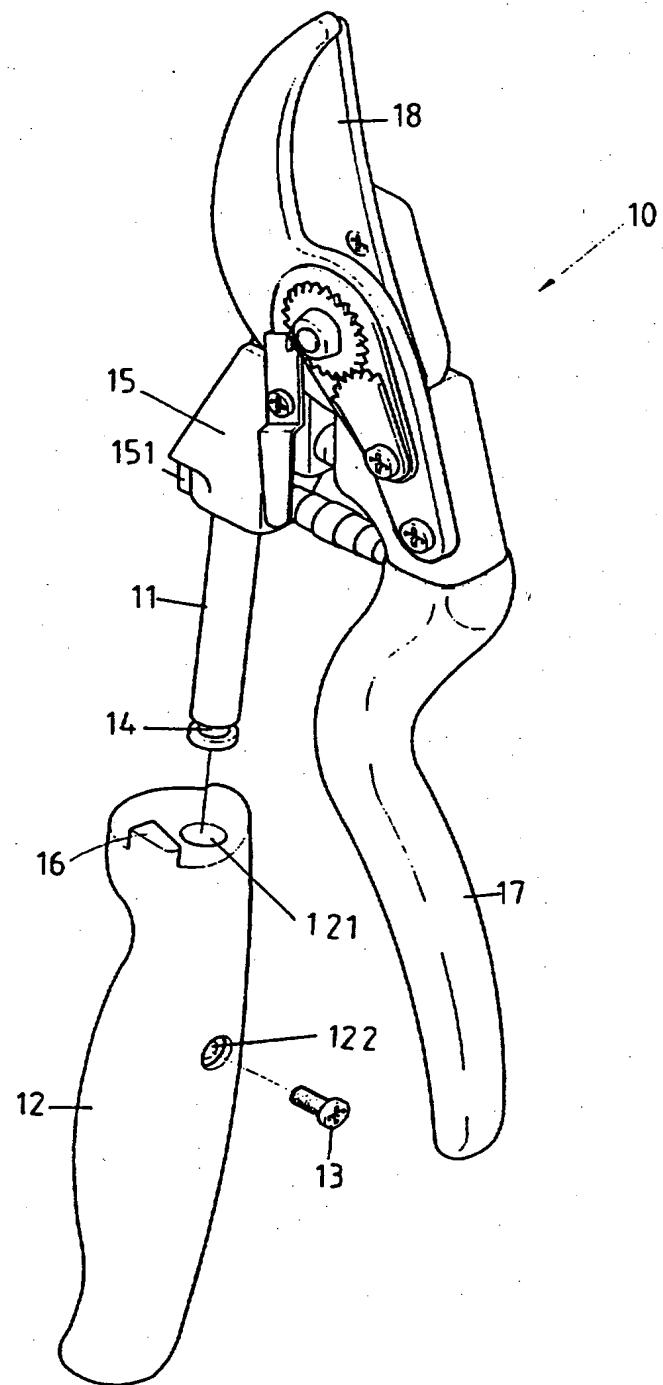


FIG.1  
PRIOR ART

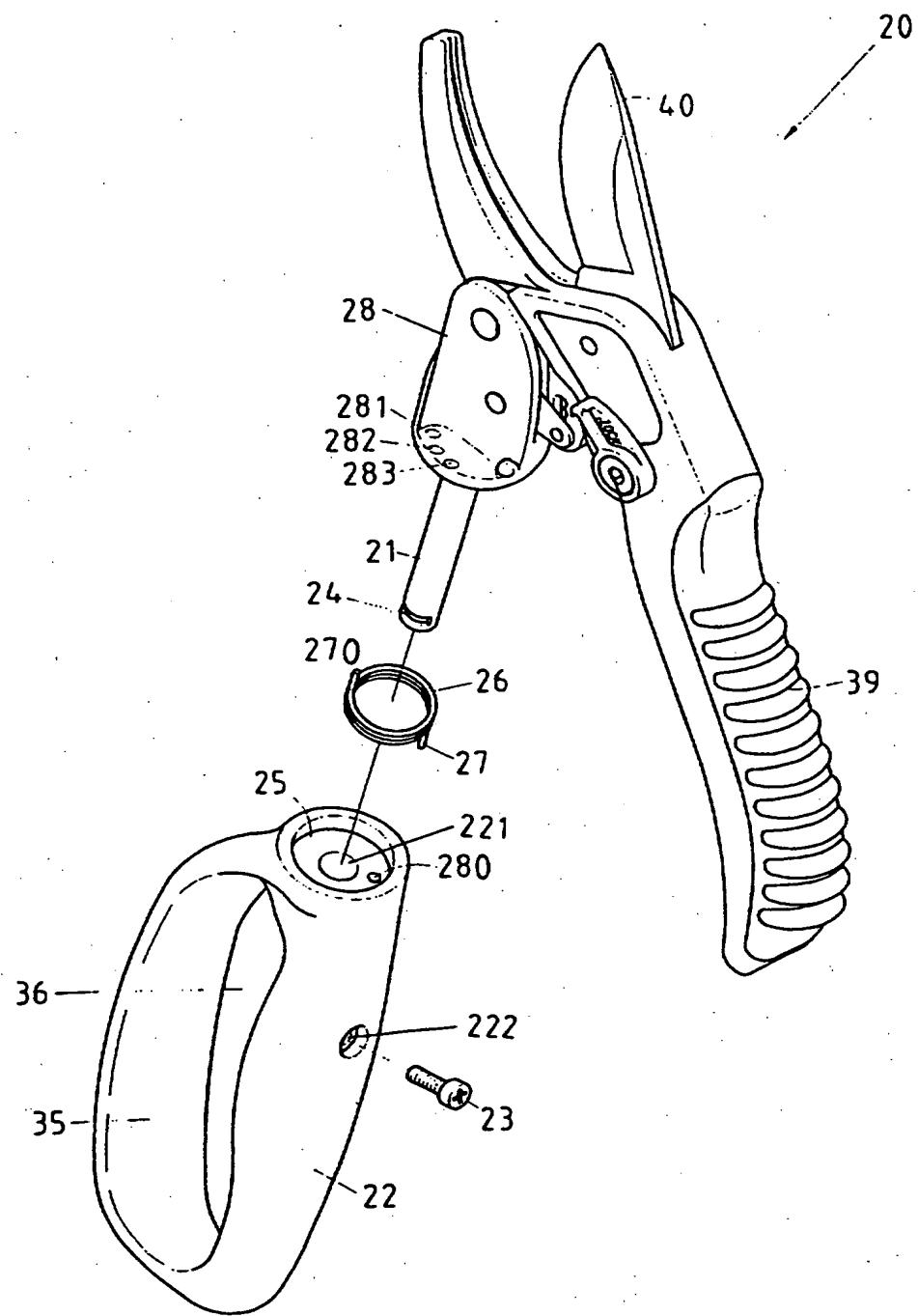


FIG.2

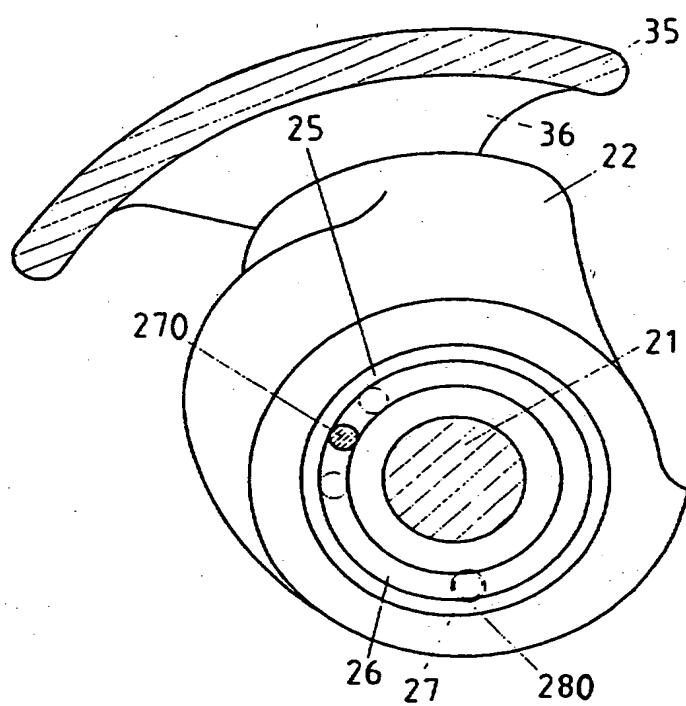


FIG. 3

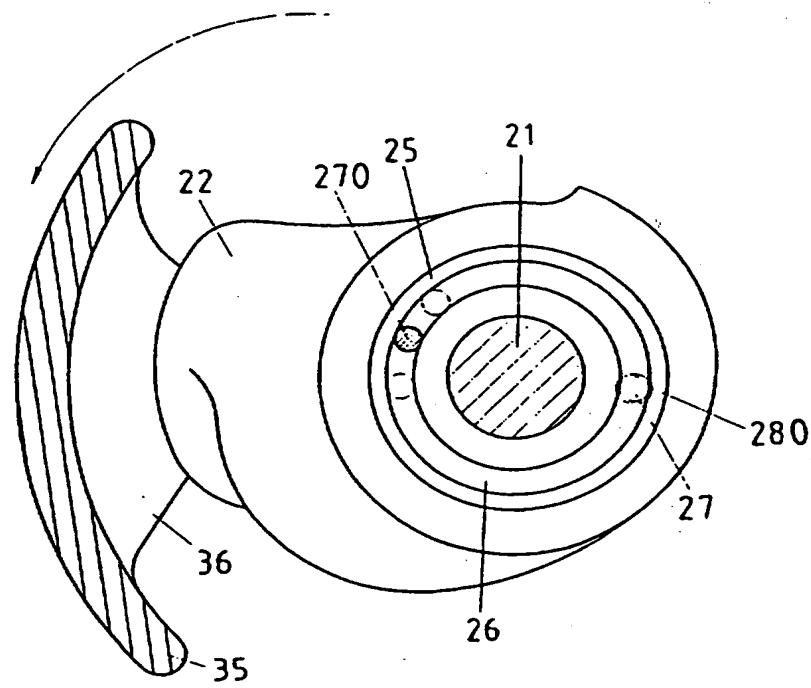


FIG.4

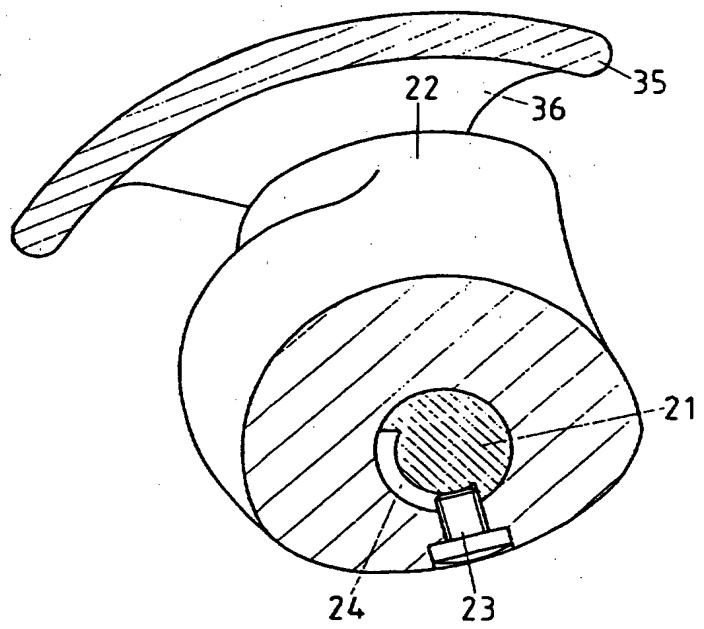


FIG.5

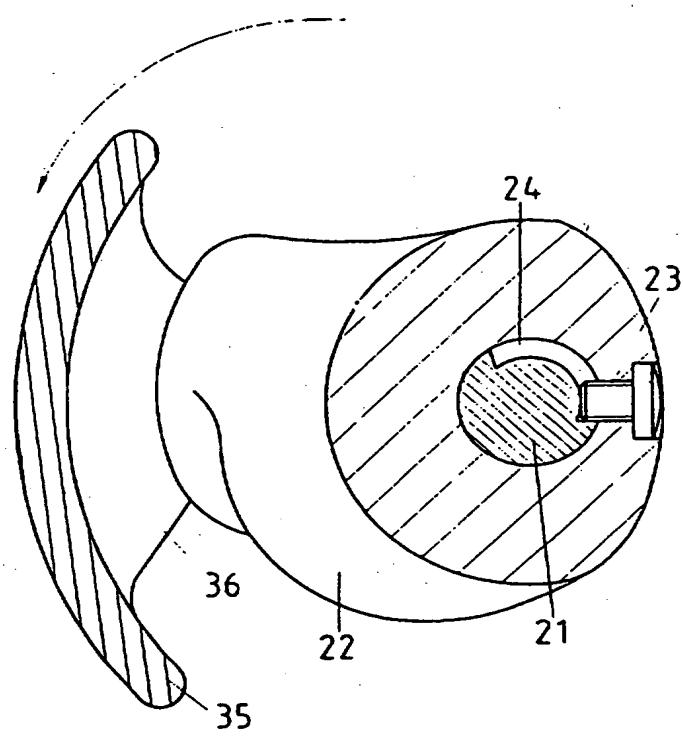


FIG. 6

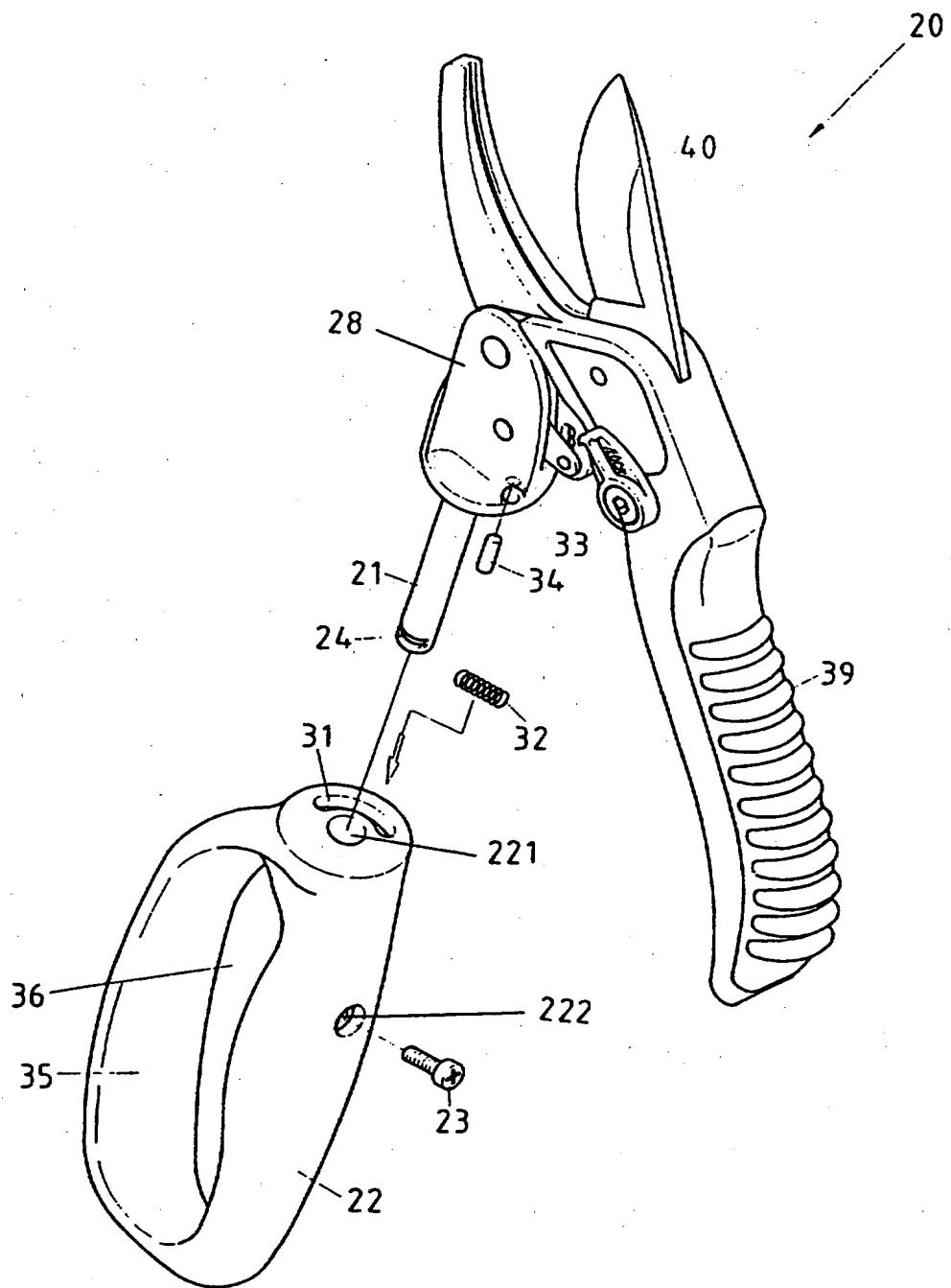


FIG. 7

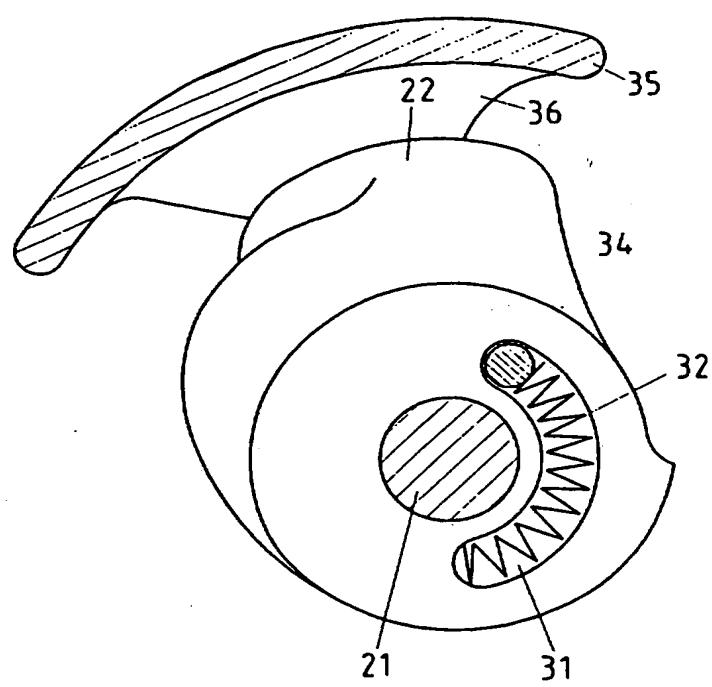


FIG. 8

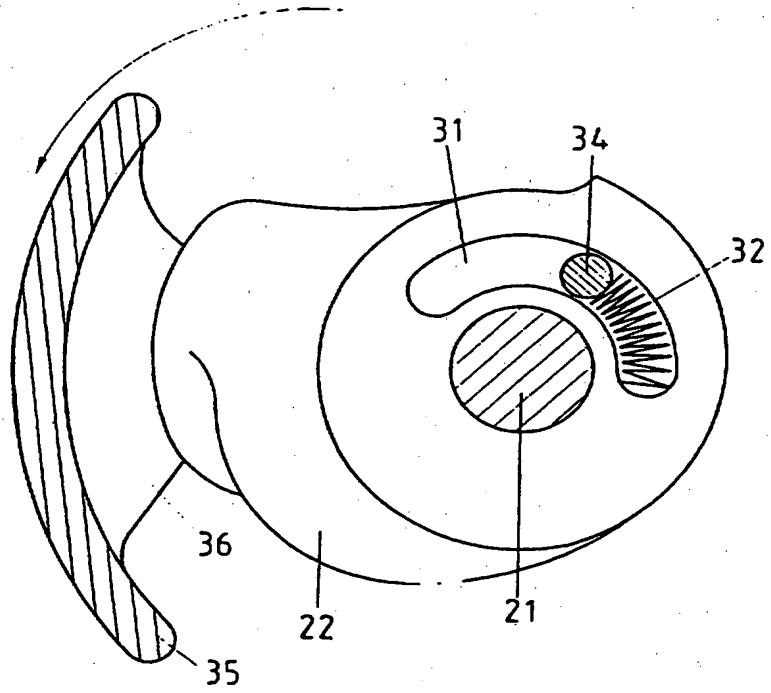


FIG. 9

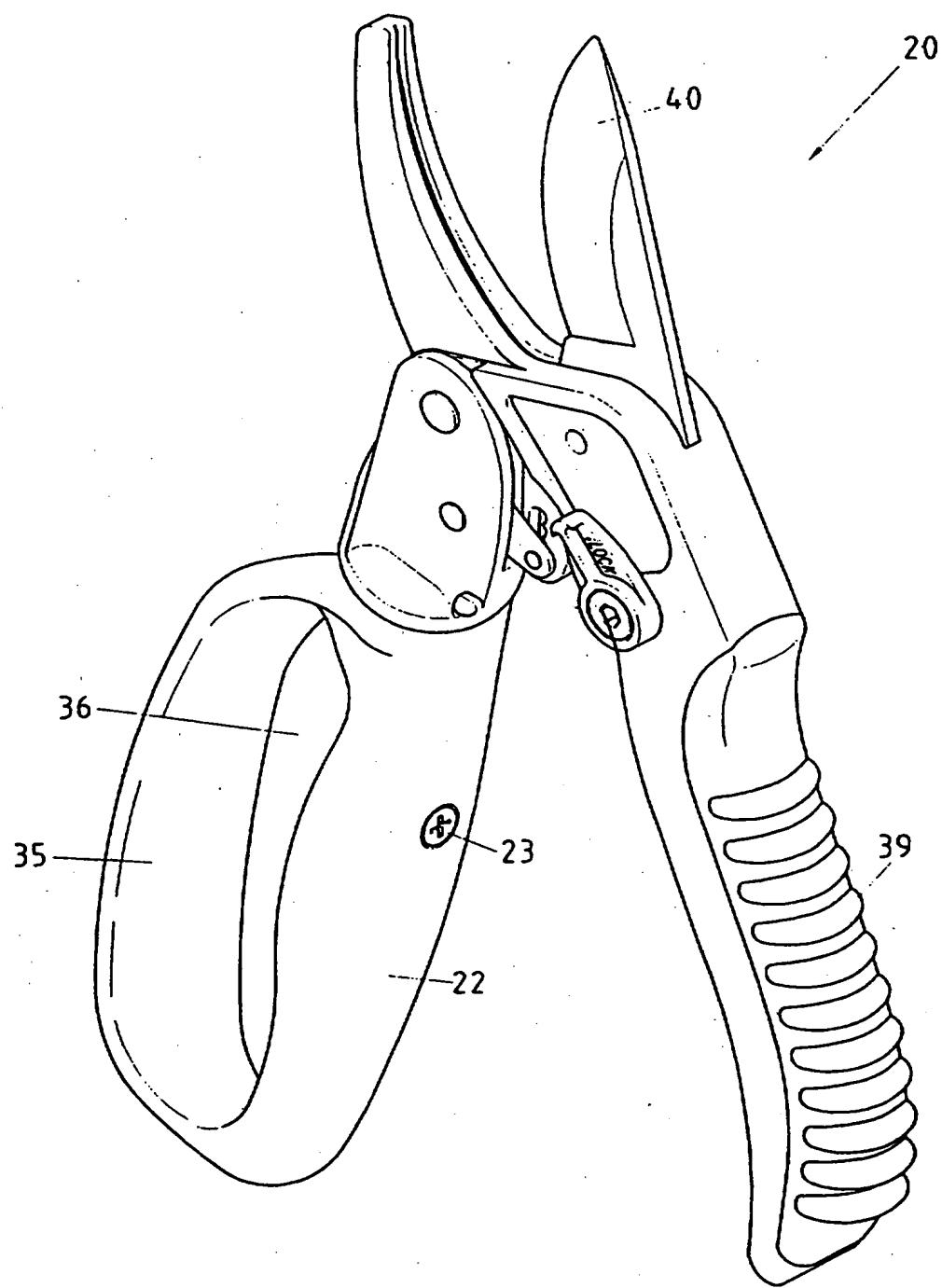


FIG.10

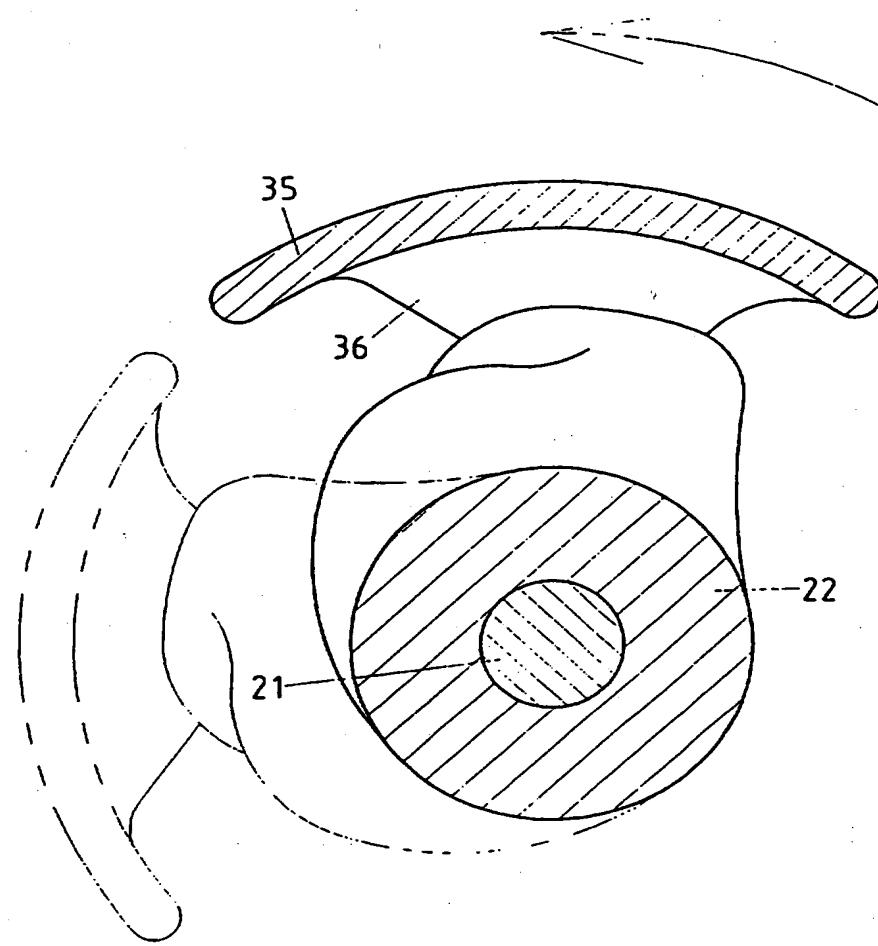


FIG. 11

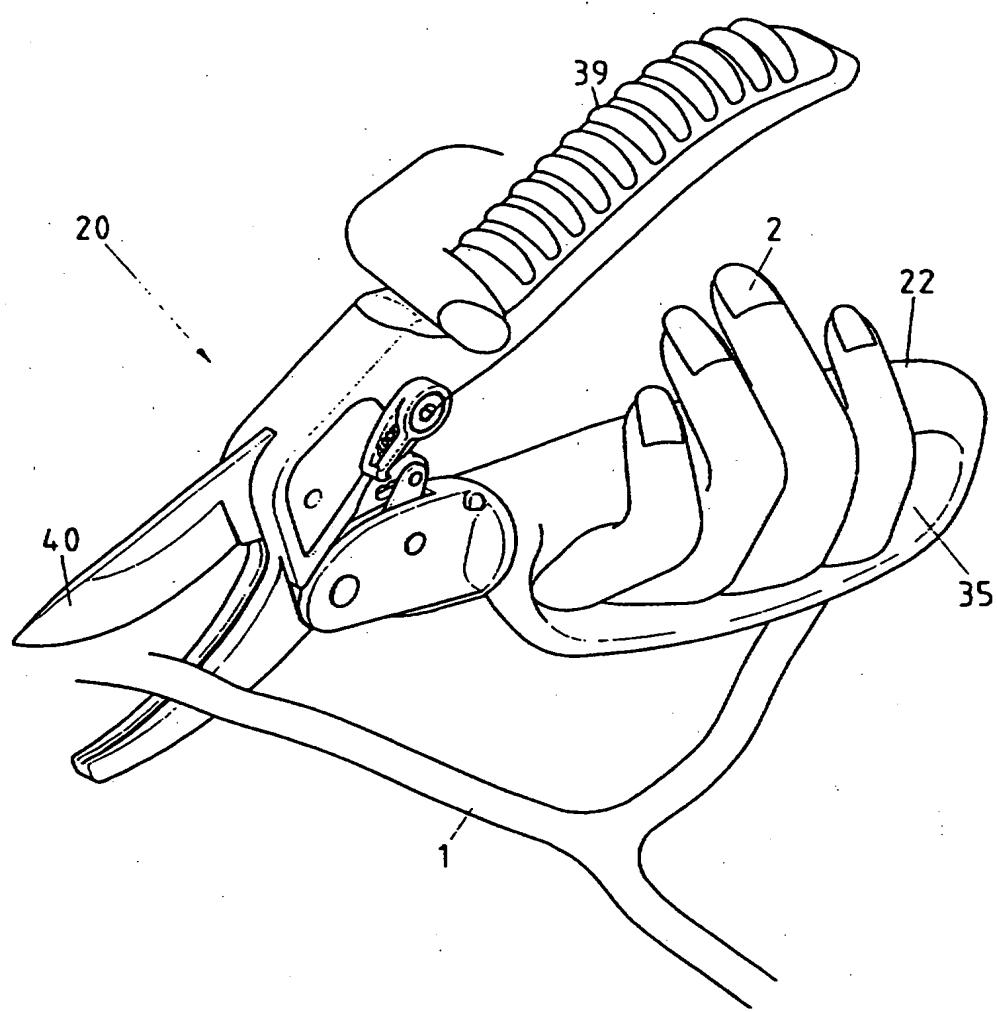


FIG.12

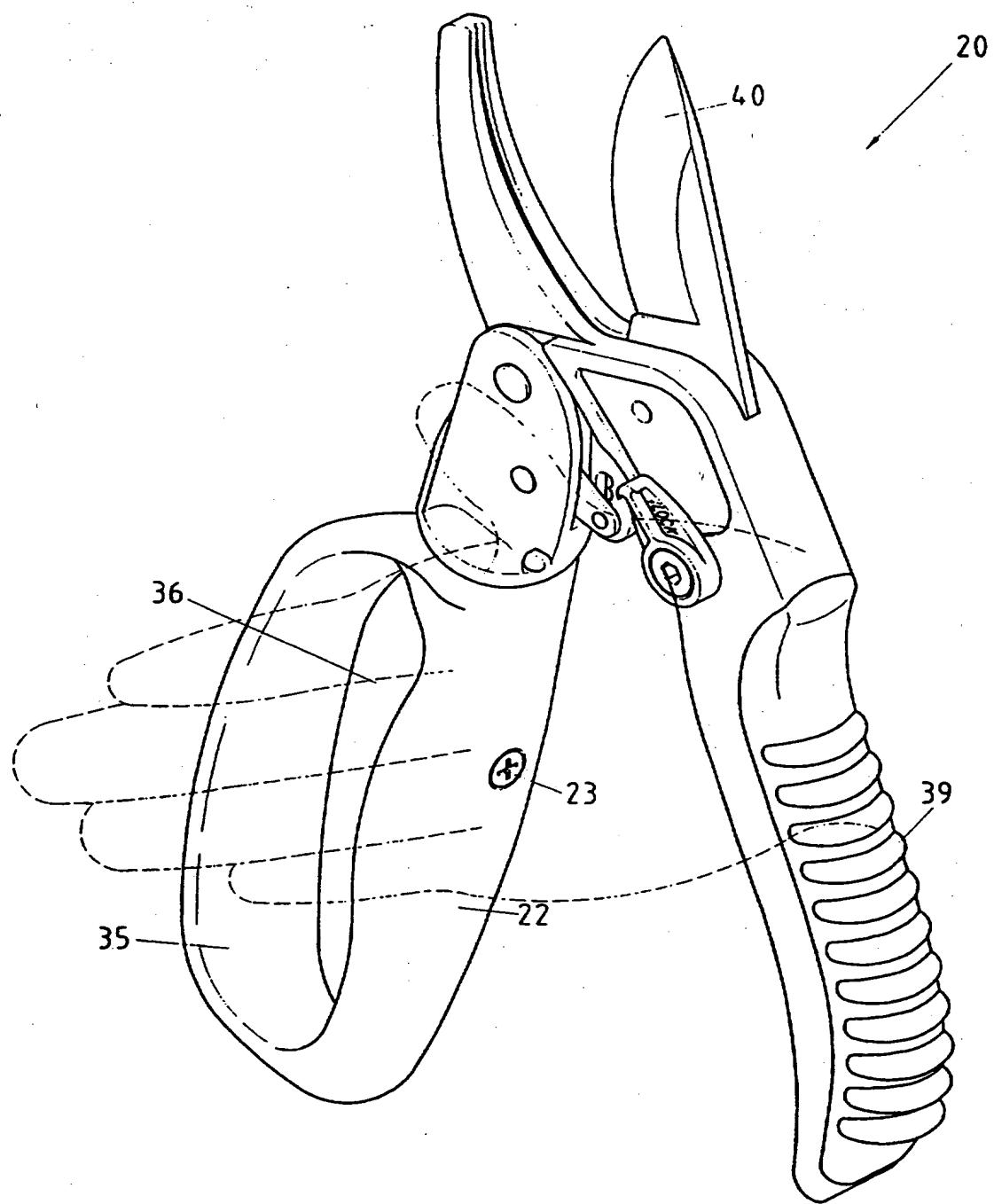


FIG.13

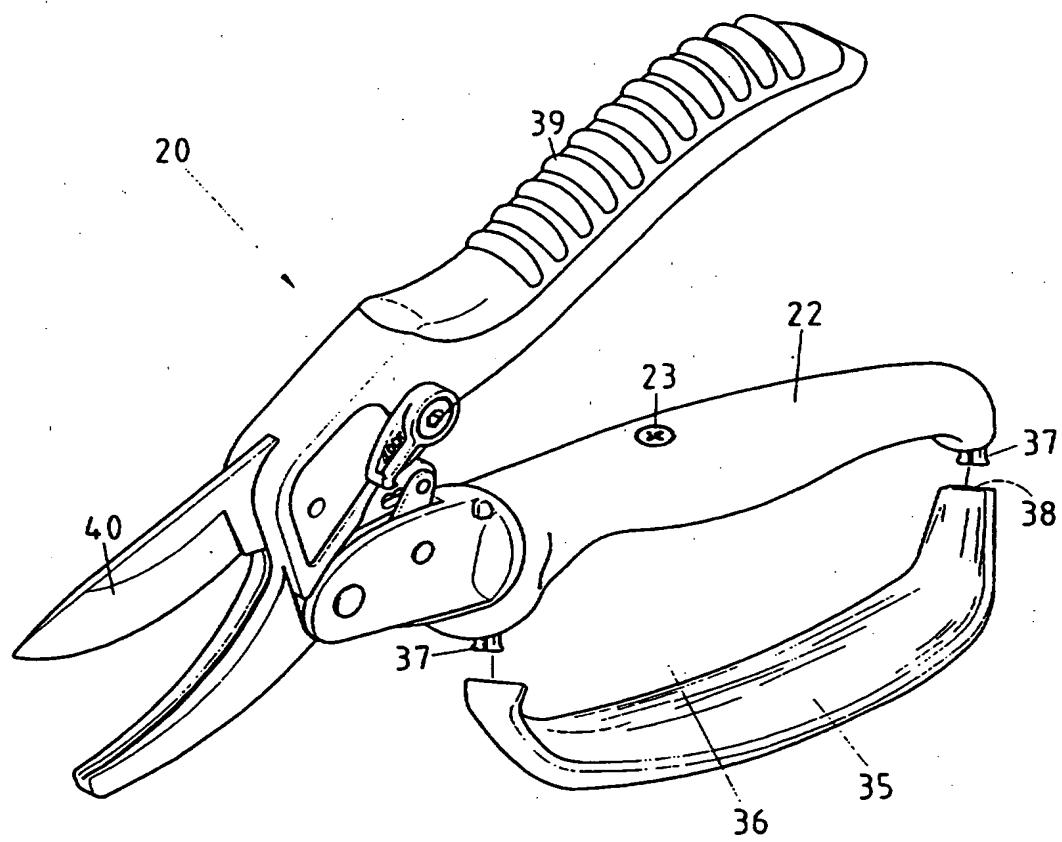


FIG.14

## TITLE: SHEARS

## BACKGROUND OF THE INVENTION

The present invention relates to a pair of shears. More particularly, the present invention relates to a 05 pair of shears which has a main handle to be rotated and returned to its original direction.

Referring to FIG. 1, a pair of conventional shears 10 comprises a pair of blades 18, a main handle 12, an auxiliary handle 17, a lug 15, and a shaft 11. The lug 15 10 is connected to the auxiliary handle 17. The lug 15 has a blocking flange 151. The pair of blades 18 are disposed on the lug 15 and the auxiliary handle 17. The shaft 11 is disposed on a bottom of the lug 15. The shaft 11 has an annular groove 14. The main handle 12 has a protuded 15 block 16, a round hole 121 receiving the shaft 11, and a circular hole 122 communicating with the round hole 121. A bolt 13 is inserted in the annular groove 14 via the circular hole 122. The protuded block 16 engages with the blocking flange 151. After the main handle 12 is 20 rotated, the main handle 12 cannot return to its original direction.

## SUMMARY OF THE INVENTION

An object of the present invention is to provide a pair of shears which has a main handle to be rotated and 25 returned to its original direction.

Another object of the present invention is to provide a pair of shears which has a main handle having a protection bow to protect fingers of a user.

BRIEF DESCRIPTION OF THE DRAWINGS

05 FIG. 1 is a perspective exploded view of a pair of conventional shears of the prior art;

FIG. 2 is a perspective exploded view of a pair of shears of a first preferred embodiment in accordance with the present invention;

10 FIG. 3 is a first sectional view of a main handle of a first preferred embodiment in accordance with the present invention;

15 FIG. 4 is a first sectional view of a main handle of a first preferred embodiment after the main handle is rotated;

FIG. 5 is a second sectional view of a main handle of a first preferred embodiment in accordance with the present invention;

20 FIG. 6 is a second sectional view of a main handle of a first preferred embodiment after the main handle is rotated;

FIG. 7 is a perspective exploded view of a pair of shears of a second preferred embodiment in accordance with the present invention;

25 FIG. 8 is a sectional view of a main handle of a

second preferred embodiment in accordance with the present invention;

FIG. 9 is a sectional view of a main handle of a second preferred embodiment after the main handle is 05 rotated;

FIG. 10 is a perspective assembly view of a pair of shears of a second preferred embodiment in accordance with the present invention;

FIG. 11 is another sectional view of a main handle 10 of a second preferred embodiment after the main handle is rotated;

FIG. 12 is a schematic view illustrating an application of a pair of shears of a second preferred embodiment in accordance with the present invention;

15 FIG. 13 is a schematic view illustrating an operation of a pair of shears of a second preferred embodiment in accordance with the present invention; and

FIG. 14 is a perspective exploded view of a pair of shears of a third preferred embodiment in accordance 20 with the present invention.

#### DETAILED DESCRIPTION OF THE INVENTION

Referring to FIGS. 2 to 6, a first pair of shears 20 comprises a pair of blades 40, a main handle 22, an auxiliary handle 39, a lug 28, and a shaft 21. The lug 28 25 is connected to the auxiliary handle 39. The pair of

blades 40 are disposed on the lug 28 and the auxiliary handle 39. The shaft 21 is disposed on a bottom of the lug 28.

The shaft 21 has an insertion groove 24. The lug 28  
05 has a first circular aperture 281, a second circular aperture 282, and a third circular aperture 283.

The main handle 22 has a protection bow 35, a hollow interior 36, an upper recess 25 receiving a spring 26, a round aperture 280 communicating with the upper recess 25, a round hole 221 communicating with the upper recess 25 and receiving the shaft 21, and a circular hole 222 communicating with the round hole 221.

The spring 26 has a first end 27 inserted in the round aperture 280 and a second end 270 inserted in one of the first circular aperture 281, the second circular aperture 282, and the third circular aperture 283.

A bolt 23 is inserted in the insertion groove 24 via the circular hole 222.

Referring to FIGS. 7 to 13, a second pair of shears 20 comprises a pair of blades 40, a main handle 22, an auxiliary handle 39, a lug 28, and a shaft 21. The lug 28 is connected to the auxiliary handle 39. The pair of blades 40 are disposed on the lug 28 and the auxiliary handle 39. The shaft 21 is disposed on a bottom of the lug 28.

The shaft 21 has an insertion groove 24. The lug 28. has a circular aperture 33.

The main handle 22 has a protection bow 35, a hollow interior 36, an upper recess 31 receiving a spring 05 32, a round hole 221 formed on an upper portion of the main handle 22 and receiving the shaft 21, and a circular hole 222 communicating with the round hole 221.

A bolt 23 is inserted in the insertion groove 24 via the circular hole 222.

10 A rod 34 has a lower end inserted in the upper recess 31 and an upper end inserted in the circular aperture 33.

Referring to FIG. 14, the main handle 22 further has two protruded posts 37. The protection bow 35 has two 15 end grooves 38 receiving the protruded posts 37.

I CLAIM:

1. A pair of shears comprising a pair of blades, a main handle, an auxiliary handle, a lug, and a shaft, the lug connected to the auxiliary handle, the pair of blades disposed on the lug and the auxiliary handle, and the 05 shaft disposed on a bottom of the lug, characterized in that:

the shaft has an insertion groove,  
the lug has at least a circular aperture,  
the main handle has a protection bow, a hollow 10 interior, an upper recess receiving a spring, a round hole formed on an upper portion of the main handle and receiving the shaft, and a circular hole communicating with the round hole, and  
a bolt is inserted in the insertion groove via the 15 circular hole.

2. A pair of shears as claimed in claim 1, wherein a rod has a lower end inserted in the upper recess and an upper end inserted in the circular aperture.

3. A pair of shears substantially as herein described 20 and illustrated with reference to the accompanying drawings.



Application No: GB 0004539.3  
Claims searched: 1 - 3

7  
Examiner: Bill Riggs  
Date of search: 13 September 2000

## Patents Act 1977

### Search Report under Section 17

#### Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.R): B4B

Int Cl (Ed.7): A01G (3/02, 3/025), B26B (13/00, 13/12, 13/20)

Other: Online databases: EPODOC, JAPIO, WPI

#### Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
A	US 5659959 (General Housewares) see whole document	
A	WPI Accession no. 92-198022 & SU 1676508 A1 (Burmak N V) see English language abstract and figure	

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

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